



**US Army Corps
of Engineers®**
Los Angeles District

Little Colorado River Feasibility Study Report

APPENDIX H Real Estate

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TABLE OF CONTENTS

1.0	Statement of Purpose.....	3
1.1	Project Purpose/Objective.....	3
1.2	Study Authority.....	3
1.3	Study Area	4
1.4	Tentatively Selected Plan (TSP)	4
2.0	Real Estate Requirements – Description of Lands, Easements, and Rights-of-Way Required for the Project.....	6
3.0	Sponsor Owned LER	13
4.0	Non-Standard Estates.....	14
5.0	Existing Federal Project	15
6.0	Federally-Owned Land.....	16
7.0	Navigational Servitude	17
8.0	Project Map	18
9.0	Potential Flooding Induced by Construction, Operation, or Maintenance of Project 19	
10.0	Real Estate Cost Baseline	20
	Federal Cost.....	21
11.0	P.L.91-646 Relocation Assistance Benefits	22
12.0	Mineral/Timber Activity	23
13.0	Non-Federal Sponsor’s Legal and Professional Capability and Experience to Acquire and Proved LER.....	24
14.0	Application or Enactment of Zoning Ordinances.....	25
15.0	Real Estate Acquisition Schedule	26
16.0	Facility/Utility Relocations.....	27
17.0	Impact on Real Estate Acquisition and LER Value Estimates Due to Suspected or Known Contaminants.....	30
18.0	Support/Opposition for the Project.....	31
19.0	Non-Federal Sponsor Notification of Risks of Pre-PPA Acquisition	32

Tables

Table 1- Breakdown of Ownership	8
Table 2 – Real Estate Cost Baseline	20
Table 3 – Real Estate Acquisition Schedule	26

1.0 Statement of Purpose

This Real Estate Plan (REP) is prepared in accordance with Engineering Regulation (ER) 405-1-12, 12-16, Real Estate Plan, and presents the real estate requirements for the Little Colorado River (LCR) at Winslow Flood Risk Management Study Tentatively Selected Plan (TSP) described below. Navajo County is the non-Federal sponsor for the study.

This REP is an appendix to the Integrated Feasibility Report, the and fully describes the lands, easements, rights of way, relocations, and disposal areas (LERRD) required for construction, operation and maintenance of the proposed project; including the number of parcels, acreage, estates, ownerships, and estimated value. The REP includes other relevant information on non-Federal sponsor ownership of land, proposed non-standard estates, existing federal projects and ownership, relocations under the Uniform Relocation Assistance and Real Property Acquisition Policies Act (P.L. 91-626, as amended) (“the Uniform Act”), presence of contaminants, facility/utility relocations, a baseline cost estimate, a schedule for real estate activities, and other issues as required by ER 405-1-12.

This REP is written to the same level of detail as the Integrated Feasibility Report it supports. This REP is tentative in nature and is to be used for planning purposes only, and both the final real estate acquisition lines and the estimate of value are subject to change even after approval of the report.

1.1 Project Purpose/Objective

The planning objectives for the study are as follows:

- Reduce risk of damages caused by flooding of the LCR to the City of Winslow, surrounding community, and public and private infrastructure through the year 2070.
- Reduce the life, safety, and health risks caused by flooding of the LCR to the City of Winslow, surrounding community, and public and private infrastructure through the year 2070.

1.2 Study Authority

The LCR at Winslow Feasibility Study is conducted in partial response to two authorities. The Flood Control Act of 1937 amended the Flood Control Act of 1936 to permit the Secretary of the Army, through the Chief of Engineers, to “conduct preliminary examinations and surveys for flood control at the Little Colorado River upstream from the boundary of the Navajo Indian Reservation.”

Further authority is provided under House Committee on Public Works Resolution dated May 17, 1994, which states: “... The Secretary of Army is hereby requested to review reports of the Chief of Engineers on the State of Arizona... in the interest of flood damage reduction, environmental protection and restoration, and related purposes.”

1.3 Study Area

The Little Colorado River at Winslow study area is located in northeastern Arizona in the middle of the Little Colorado River Watershed, in and near the City of Winslow in western Navajo County (see map, Exhibit A). The study area includes the floodplain of the LCR from the Clear Creek confluence downstream (northwest) to the northern end of the existing Winslow Levee. The 49-square-mile study area encompasses the majority of the City of Winslow, and includes the Ruby Wash Diversion Levee and the Ruby Wash Levee. The tributaries of Ruby Wash, Clear Creek, Cottonwood Wash, Chevelon Creek, and Salt Creek/Jacks Canyon join the LCR mainstem within the study area. Transportation infrastructure crossing the LCR includes Interstate Highway 40, State Highway 87 (Historic U.S. Route 66), and the Burlington Northern Santa Fe (BNSF) Railroad. The study area also includes a portion of Homolovi State Park, a cluster of four archeological sites that include seven separate pueblos built between 1260 and 1400 AD, east of the Winslow Levee and LCR.

Winslow is the largest city in Navajo County, being approximately twice the size of the county seat of Holbrook. The population of Winslow was 9,655 in 2010. The area is supported by tourism, manufacturing, trade, retail and the timber industry.

1.4 Tentatively Selected Plan (TSP)

Alternative 10.1

This Real Estate Plan describes the real estate requirements for Alternative 10.1, referred to herein as the Tentatively Selected Plan or TSP. The TSP includes a portion of the LCR channel and floodplain, the eastern end of the Ruby Wash Diversion Levee (RWDL), the Winslow Levee, and areas needed for a setback in the Winslow Levee landward of the existing levee system. It also includes lands necessary for borrow, disposal, staging, ingress/egress, and stockpiling.

Under the TSP, the Corps would remove and rebuild and construct new portions of the Winslow Levee and Ruby Wash Diversion Levee (RWDL). Specific measures of this alternative, starting from upstream to downstream, include: removal and reconstruction of the easternmost 2000 feet of the Ruby Wash Diversion Levee (RWDL) to its abutment with the Winslow Levee; removal and reconstruction of the existing 3,052 feet of the Winslow Levee from the RWDL north to I-40; improved conveyance under the Burlington Northern Santa-Fe (BNSF) Railroad Bridge, including excavation of the channel to its current thalweg depth and removal of saltcedar; north of and parallel to I-40, construction of 3,733 feet of a new segment of the Winslow Levee; and north of I-40, removal and reconstruction of 13,767 feet of the existing Winslow Levee to a point 0.8 of a mile (approximately 4200 feet) north of North Road, ending at Station 320+00. This last segment of reconstruction would include a setback of part of the levee west of the Homolovi I Pueblo, which is on the east side of the Little Colorado River. The new setback levee segment of 1,600 feet would be reconstructed further west than the existing levee.

The total length of new and reconstructed levees would be 22,552 feet. Both levees would be designed to provide approximately 3 feet of height above the 1% annual chance exceedance event (ACE) water surface elevation. The additional levee height would increase the assurance that the designated flood can be contained. Under this alternative, an improved flood warning system would also be implemented in the vicinity.

The typical levee section would consist of a trapezoidal compacted earth fill levee designed to convey the 1% ACE. The levee height would be constructed to 3' above the current levee height to increase the assurance that the levee could convey this flood. Maximum levee height for Alternative 10.1 would be 15.8'. The levee would be faced with 2:1 (H:V) basaltic riprap, 2:1 grouted stone or 1:1 soil cement on the river side; scour protection installed to an average depth of 15' below grade on the river side; a 3:1 slope on the land side overlain with 4" of gravel mulch to prevent erosion; a 16' wide access road along the crest of the levee; and a 10' wide, 8' deep trench drain having 2:1 side slopes at the toe of the levee on the land side. A 15' wide maintenance road landward of the trench drain would also be constructed. The typical levee section footprint would be approximately 210' in width including the maintenance road and trench drain.

In addition to levee construction, Alternative 10.1 includes saltcedar removal and river channelization to increase conveyance of floodwater under the BNSF Railroad Bridge. Saltcedar would be removed from an approximately 96-acre area in the vicinity of the BNSF Railroad and State Highway 87 bridges using land clearing equipment. Removed saltcedar would be disposed of in an upland location outside of the floodplain. Following saltcedar removal, the river would be channelized for a length of 2,500' by excavating 299,836 cubic yards of material to increase the river to its current thawed depth. Most of this work would be accomplished using scrapers, requiring temporary discharge of fill material. The total channelization area would be 26.1 acres, and the average depth of excavation would range from 6 to 8 feet. The bottom of the newly excavated channel would remain earth-lined.

As part of the channelization work, 36,640 cubic yards of soil cement and 26,055 cubic yards of riprap would be installed to create a low flow channel terrace and side slopes. Excavated material would either be recycled for levee construction, or disposed of in an upland area behind the levee.

The study team is assuming that 70% of the material acquired from the existing levee embankment and trench drain excavation can be re-used for new levee construction. Based on these assumptions, Alternative 10.1 would require disposal of an estimated 332,000 cubic yards of material. This material would be disposed of using upland locations. Associated impacts such as borrow/disposal, construction staging, materials stockpiling, equipment storage, temporary access roads and ramps, and operation of a concrete batch plant would be conducted in areas outside of Section 404 jurisdiction.

2.0 Real Estate Requirements – Description of Lands, Easements, and Rights-of-Way Required for the Project

The lands, easements, and rights of way (LER) required for the TSP are described below:

Permanent Interests

Levees

Alternative 10.1 would require Flood Protection Levee Easement (Standard Estate #9) over a total of approximately 92.25 acres of land for the construction and rebuilding of segments of the Winslow and Ruby Wash Diversion levees. Because a significant portion of the proposed project involves the reconstruction of an existing non-Federal levee, Navajo County already holds permanent easements for flood control over 60 acres of this land. These interests would be provided by Navajo County, they have been reviewed by the project delivery team and are anticipated to be sufficient for the purposes of the proposed project. Additionally, Navajo County owns 4.23 acres in fee, over which it must provide Flood Protection Levee Easement (Standard Estate #9). The non-Federal sponsor must also acquire Flood Protection Levee Easement (Standard Estate #9) over 15 acres owned in fee by the Arizona Department of Transportation (ADOT), over 0.915 acres owned in fee by BNSF Railroad, and over 8.1 acres owned in fee by 3 private landowners. Navajo County must also acquire permanent easements for flood control over approximately 4 acres of the Ruby Wash Diversion Levee, for which the City of Winslow currently holds easements. As discussed below, the Ruby Wash Diversion Levee is part of a previous Federal project, so it is anticipated that the City will assign its existing easements over the 4 acres to Navajo County, with no credit to Navajo County for the value of such easements.

Channelization Area

Under Alternative 10.1, 26.1 acres of Navajo Tribe and ADOT owned property would need to be channelized to direct the flow of water for the proposed project. Navajo County would have to acquire Channel Improvement Easement (Standard Estate #8) over these areas (see Exhibit G).

Saltcedar Removal

Under Alternative 10.1, 96 acres of BNSF/Navajo Tribe/ADOT property is required for saltcedar removal during construction and periodically over the lifespan of the project to insure proper water flowage. Navajo County would have to acquire Channel Improvement Easement (Standard Estate #8) over these areas (see Exhibit G). Although the channelization of the above discussed 26.1 acres will also require the removal of saltcedar through the channel area, these two areas have been addressed separately by the project delivery team, and there is no overlap of the required real estate.

Construction/Staging Areas

Construction of Alternative 10.1 would require Temporary Work Area Easements (Standard Estate #15) over approximately 60.05 acres alongside the proposed levee to allow for the construction equipment and supplies. The non-Federal sponsor, Navajo County, owns 9.209 acres of the land over which this interest is required, and would provide it to the proposed

project. Navajo County must also acquire the Temporary Work Area Easements over 11.544 owned by the City of Winslow in fee on 2 parcels, over 4.49 acres owned by the Navajo Tribe on 2 parcels (this is land held in fee and not Tribal Trust land), and over 34.806 acres owned in fee by 9 private landowners on 10 parcels.

There are six proposed staging areas over which Temporary Work Area Easements (Standard Estate #15) would be required under Alternative 10.1, including three adjoining the construction boundary as depicted on exhibit C attached herein. There are two sites South of I-40 near the Ruby Wash Levee with two different private owners; approx. 2 acres owned in fee by the Navajo Tribe (not Tribal Trust Land), and approx. 2 acres owned by Klaus Bolle. The remaining four sites are North of I-40; approx. 2 acres owned by Transcon LLC, approx. 2 acres owned by Pugh/Gale, approx. 5 acres owned by the City of Winslow, and approx. 2 acres owned O'Haco (O'Haco South). Two of the sites (City of Winslow and O'Haco South) are located on the same properties used as disposal areas described below. Their use for staging will be provided for within the areas of the Temporary Work Area Easements (Standard Estate #15) acquired for disposal purposes. Each of these easements must be acquired by Navajo County.

Ingress/Egress

Six ingress-egress routes for access to the construction corridor have been identified. There are three existing public access roads over which Rights of Entry for Construction would be required under Alternative 10.1. These roads are located on the south and north sides of SR87 west of the Winslow Levee, and on the westbound I-40 frontage road east from Transcon Lane. The roads are on approximately .01, .01, and .038 acres respectively, and owned by Navajo County. The Rights of Entry are needed so that road safety, load and widening improvements can be made. Temporary Road Easements (Standard Estate #11) would be required over two sites; approximately 0.063 acres owned in fee by Transcon LLC, and approx. 0.028 acres owned in fee by Pugh/Gale. The sixth ingress-egress route is on 45 acres located over two adjoining 80 acre parcels owned in fee by the City of Winslow. A Temporary Work Area Easement (Standard Estate #15) will be acquired over this land, as it is also being used for borrow and disposal.

Disposal Sites

Alternative 10.1 would require the disposal of an estimated 332,000 CY of material. All excess material originating from the LCR channelization area and levee demolition south of I-40 is anticipated to be disposed of on a 503 acres site owned in fee by McCauley. This is the preferred disposal site and lies entirely within the without-project 1% ACE floodplain. Excess material originating from the rest of the TSP construction would be hauled to the 45 acre site owned by the City of Winslow site, or a 400 acre site owned by O'Haco (O'Haco South) with 141 acres available for disposal. The material at each of the sites is anticipated to be spread at a thickness of 1 to 2.5 feet. Navajo County would have to acquire Temporary Work Area Easements (Standard Estate #15) over the proposed sites, although the total area needed to be acquired would depend on the depths to which the fill is spread. Fill would typically be spread at a depth of 1 to 2.5 feet at the disposal site, though due to the topography of the McCauley site, fill depth there may exceed 2.5 feet in some areas. For the purposes of the feasibility study, the project

delivery team has determined the acreage of real estate required for disposal based on the estimation that the fill would be spread evenly over the available acreage at the proposed depths. The estimated area needed at the O'Haco site is 5.1 acres at a 1 foot fill depth, and 2 acres at a 2.5 foot fill depth; estimating that the fill is spread evenly at the proposed depths, the area required will be 2.55 acres. The estimated area needed at the McCauley site is 170 acres at a 1 foot fill depth and 68 acres at a 2.5 foot fill depth; estimating that the fill is spread evenly at the proposed depths, the area required would be 119 acres. Because the City of Winslow site is anticipated to be used for borrow (as described below) as well as disposal the easement is anticipated to be required over the entire site.

Borrow Sites

Alternative 10.1 would entail borrow of construction materials from multiple sites over which Temporary Work Area Easements (Standard Estate #15) and Flood Protection Levee Easement (Standard Estate #9) are required for other project purposes, including the existing levee embankments, trench drain excavation, and the ± 26 -acre LCR channelization area, as well as commercial sites over which no real estate interest would be acquired. Alternative 10.1 would also require Temporary Work Area Easements (Standard Estate #15) over three designated borrow sites. The first site is the parcel owned in fee by the City of Winslow noted in the Disposal section above. The site is 45 acres located over two adjoining 80 acre parcels, and would be used for both borrow and disposal. This site includes the ± 18 -acre old river bend on the City of Winslow property at French Road. The second site is approximately 3 acres on a 98.47 acre parcel owned by Seibert Land Company, LLC where a dust dune located is in the floodplain between the Winslow Levee and LCR. The third site is 2 acres on a 39.2 acre parcel, the "O'Haco Northwest" site, located 2.5 road miles northwest of the north end of the Winslow Levee. Material from this parcel will not be used unless it cannot be obtained closer to the construction site.

Table 1- Breakdown of Ownership

Feature	Ownership	Interest to acquire/provide	Approx. acres to acquire/provide
Permanent Interests			
Winslow Levee (Existing Levee Footprint Only)	Navajo County	Permanent Easement for Flood Control, as held by the Navajo County	60 acres, Existing Levee Footprint only
Ruby Wash Diversion Levee (Existing Levee Footprint Only)	City of Winslow	Permanent Easement for Flood Control, as held by the City of Winslow	4 acres, Existing Levee Footprint only

Winslow Levee	Navajo County in Fee, Parcel #103-50-003	Flood Protection Levee Easement, Standard Estate #9	4.23
Winslow Levee	Pugh Thurman D. & Betty Gale (JT) in Fee, Parcel #103-30-069	Flood Protection Levee Easement, Standard Estate #9	4.470
Winslow Levee	Transcon in Fee Parcel, #103-30-010B	Flood Protection Levee Easement, Standard Estate #9	2.64
Winslow Levee	Arizona Department of Transportation (ADOT) in Fee No parcel number	Flood Protection Levee Easement, Standard Estate #9	15.0
Winslow Levee	BNSF Rail Road in Fee. No parcel number	Flood Protection Levee Easement, Standard Estate #9	0.915
Winslow Levee	Roosevelt Hills, LLC in Fee, Parcel #103-31-010A	Flood Protection Levee Easement, Standard Estate #9	0.991
Channelization Area	Navajo Tribe/ADOT	Channel Improvement Easement, Standard Estate #8	26.1
Saltcedar Removal	Navajo Tribe/ADOT/BNSF	Channel Improvement Easement, Standard Estate #8	96.0
Temporary Interests			
Winslow Levee	Leonard in Fee, Parcel # 103-30-071D	Temporary work area easement, Standard Estate #15	0.004 (200sqft)
Winslow Levee	City of Winslow in Fee, Parcel #103-29-002/103-31-004	Temporary work area easement, Standard Estate #15	11.544
Winslow Levee	Navajo County in Fee, Parcel #103-50-003	Temporary work area easement, Standard Estate #15	9.209

Winslow Levee	Seibert Land Company, LLC. In Fee, Parcel #103-30-073	Temporary work area easement, Standard Estate #15	11.578
Winslow Levee	Wickham Glenn E & Oleta in Fee, Parcel #103-30-071A	Temporary work area easement, Standard Estate #15	0.987
Winslow Levee	Ybarra in fee, Parcel #103-30-072A	Temporary work area easement, Standard Estate #15	0.057 (2500 sqft)
Ruby Wash Levee	Navajo Tribe in Fee, Parcel #103-39-002	Temporary work area easement, Standard Estate #15	4.006
Winslow Levee	Navajo Tribe in Fee, Parcel #103-31-011	Temporary work area easement, Standard Estate #15	0.484
Winslow Levee	Transcon in Fee, Parcel #103-30-010B	Temporary work area easement, Standard Estate #15	8.384
Winslow Levee	Dalton in Fee, Parcel #103-30-072D	Temporary work area easement, Standard Estate #15	0.179
Winslow Levee	H&M Inc. in Fee, Parcel #103-22-013	Temporary work area easement, Standard Estate #15	11.189
Winslow Levee	Hatch in Fee, Parcel #103-30-072C	Temporary work area easement, Standard Estate #15	0.630
Winslow Levee	Klaus Bolle in Fee, Parcel #103-39-007/103-50-004	Temporary work area easement, Standard Estate #15	1.796
Staging Area, Ruby Wash Levee	Navajo Tribe in Fee, Parcel #103-39-002	Temporary work area easement, Standard Estate #15	2

Staging Area, Winslow Levee	Klaus Bolle in Fee, Parcel #103-39-007/103-50-004	Temporary work area easement, Standard Estate #15	2
Staging Area, Winslow Levee	Transcon in Fee, Parcel #103-30-010B	Temporary work area easement, Standard Estate #15	2
Staging Area, Winslow Levee	O'Haco, in Fee (O'Haco South) Parcel #103-22-006	Temporary work area easement, Standard Estate #15	2
Staging Area, Winslow Levee	Pugh Thurman D. & Betty Gale (JT) in Fee, Parcel #103-30-069	Temporary work area easement, Standard Estate #15	2
Access Road, Ruby Wash Levee	Navajo County in Fee	Right of Entry for Construction	.01
Access Road, Ruby Wash Levee	Navajo County in Fee	Right of Entry for Construction	.01
Access Road, Winslow Levee	Navajo County in Fee	Right of Entry for Construction	.038
Access Road, Winslow Levee	Transcon in Fee, Parcel #103-30-010B	Road Easement (temporary), Standard Estate #11	0.063
Access Road, Winslow Levee	Pugh Thurman D. & Betty Gale (JT) in Fee, Parcel #103-30-069	Road Easement (temporary), Standard Estate #11	0.028
Disposal, Winslow Levee	McCauley in Fee, Parcel # 103-50-001	Temporary work area easement, Standard Estate #15	119
Disposal, Winslow Levee	O'Haco in Fee (O'Haco South), Parcel #103-22-006	Temporary work area easement, Standard Estate #15	2.55
Borrow and Disposal Site, Winslow Levee	City of Winslow in Fee. Parcel #103-29-002	Temporary work area easement, Standard Estate #15	45

Borrow, Winslow Levee	Seibert Land Company, LLC Parcel #103-30-073	Temporary work area easement, Standard Estate #15	3
Borrow, Winslow Levee	O'Haco in Fee (O'Haco Northwest)	Temporary work area easement, Standard Estate #15	2

3.0 Sponsor Owned LER

The non-Federal sponsor holds flood control easements over approximately 60 acres that were previously acquired and recorded for the Winslow Levee. The interests held by the existing easements for the Winslow Levee have been reviewed by the project delivery team and are anticipated to be sufficient for the purposes of the proposed project. Navajo County also owns 4.23 acres in fee, over which it must provide Flood Protection Levee Easement (Standard Estate #9). With respect to temporary interests, Navajo County owns approximately 9.209 acres in fee over which it must provide the Temporary Work Area Easements (Standard Estate #15) for borrow, staging, and construction activities. Navajo County owns 0.058 acres over which a Right of Entry for Construction would be provided for ingress and egress to the proposed project.

4.0 Non-Standard Estates

The use of non-standard estates is not anticipated to be required for this proposed project. However, the interests held by Navajo County over the current Winslow Levee, and by the City of Winslow of the current RWDL, are not identical to that provided by the Flood Protection Levee Easement (Standard Estate #9). The interests the City of Winslow and Navajo County currently hold provide for perpetual easements for constructing and maintaining a flood control dike and appurtenant jetties, and all incidents thereto (or similar language). These interests have been reviewed by the project delivery team and are anticipated to be sufficient for the purposes of the proposed project. If it is later determined that non-standard estates are necessary, a request for approval of the non-standard estate will be submitted for to Headquarters for approval through South Pacific Division separate from this REP.

5.0 Existing Federal Project

Where there is an existing Federal project within the area proposed for a new project, such lands must be identified, and the sufficiency of those lands for the proposed project must be evaluated. In addition, the value of lands provided as an item of local cooperation for a previous Federal project are not included in the valuation of lands for the current proposed project, and no credit may be afforded for such interests.

There is one existing Federal project within the boundaries of the TSP, south of I-40. The 5.3-mile Ruby Wash Diversion Levee was constructed by the Army Corps of Engineers between 1968 and 1970, and is maintained by the City of Winslow. All LER for the RWDL was granted to the City of Winslow as permanent easements for flood control by a combination of private landowners, City, County, and the Navajo Tribe at the time of construction. The remaining portion of the RWDL not affected by this proposed project will continue to be maintained by the City of Winslow as part of the previous project.

Under the TSP, the RWDL, located at the southern end of the proposed project near I-40, will be modified to accommodate the rebuilt Winslow Levee to the north. The easternmost 2000' of the RWDL, to its abutment with the Winslow Levee, will be rebuilt. According to as-builts, the east end of this levee abuts the Winslow Levee at station 99+60. Stationing continues west to station 381+30.51 where the structure ends on the west (left) bank of the Little Colorado River.

(Stationing is in feet). The southern end of the proposed project would overlap with the existing Federal project footprint for the easternmost 2,000 feet of this levee, from station 99+60 to approximately station 120 +00. The City of Winslow has indicated they will make the 2000 feet (LER) of the RWDL available to the LCR Winslow Project. This LER will be made available through assigning the permanent easement for flood control under which the City has operated the RWDL to the non-Federal sponsor. These interests have been reviewed by the project delivery team and are anticipated to be sufficient for the purposes of the proposed project. It is anticipated that the existing Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRRR) manual for RWDL would be modified to exclude the areas of improvement, with responsibility transferred to Navajo County. Because the RWDL footprint was previously provided as an item of local cooperation, no credit shall be afforded to Navajo County for the value of this LER. However, Navajo County's soft costs of obtaining the assigned easement may be eligible for credit.

6.0 Federally-Owned Land

There is no Federally-owned land within the LER required for the proposed project.

7.0 Navigational Servitude

Exercise of Federal navigational servitude is not applicable to this proposed project and is not being invoked.

8.0 Project Map

Please see attached proposed project map exhibit A through A-9 for a delineated area of the project study footprint. Currently there is only a 15% design construction boundary footprint.

9.0 Potential Flooding Induced by Construction, Operation, or Maintenance of Project

Hydraulic analyses conducted for the study evaluated anticipated flow characteristics of the TSP compared to the without-project baseline conditions which included two evaluations: a baseline condition where the existing levees would not fail prior to overtopping and a baseline condition where the existing levees could fail due to levee slope failure, impingement, or piping failure prior to waters overtopping the levee. Based on the most likely baseline scenario in which the levees would not fail, there would be no induced flooding from the TSP compared to baseline conditions. It is possible, when compared to the unlikely baseline scenario in which the levees could fail, that the TSP would result in a minimal increase in the water surface elevation and profile at certain points. However, this possibility is very low and it is not a reasonably foreseeable consequence that there would be a severe invasion that would change the character of the land use, cause serious consequences, or change the customary use of the land.

10.0 Real Estate Cost Baseline

The Baseline Cost Estimate for Real Estate (BCERE) for the TSP is presented below. In accordance with Engineer Circular (EC) 405-1-4 and Policy Guidance Letter (PGL) No. 31, for projects in which the value of real estate (including lands, improvements, and severance damages) are not anticipated to exceed 10 percent of total project cost, a cost estimate or rough order of magnitude is acceptable for purposes of the feasibility phase. The value of LER previously provided for the RWDL project is not included in the baseline cost estimate, and will not be used for the real estate acquisitions costs in Table 2 below. However, the soft costs associated with this LER will be included in the Real Estate costs estimate for activities such as title work, recording and admin.

The below estimated values are based upon informal value estimates derived from local Municipal Tax Assessment Office, and other publicly obtained information. The values in Table 2 below are estimates only, and pre-acquisition appraisal services to determine the current actual market value of LER may be obtained if total real estate costs constitute more than 10% of the total proposed project costs. A contingency of approximately 40 percent has been added into this estimate due to factors that cannot be evaluated at this time such as the project timeline as affected by federal appropriations, differences in the design for PED, and higher relocation costs than projected. Also in Arizona, closing costs and title work costs average around 10 percent of the total cost of acquisition, and this has been added into the estimate as well. The following LER estimate assumes Winslow area values to average approximately \$268 per acre for a market value fee purchase of land in the Winslow market. Though most of the LER acquisitions will be easements, this \$268 an acre will be used to establish a baseline cost estimate for all Real Estate.

Table 2 – Real Estate Cost Baseline

Non-Federal Sponsor Cost (Alternative 10.1)	ACRES	COST
Lands, Easements, Rights of Way (01 Account)	452 (Approx.)	\$121,338
Incremental RE Costs (40.86% contingency) (01 Account)		\$49,579
Facility/Utility Relocations (02 Account)		\$608,625
Incremental RE Costs (40.86% contingency) (02 Account)		\$248,684
Subtotal LERRDs (01 and 02 accounts)		\$1,028,226
*Non Federal Administrative Costs (01 Account)		

Estimated at 10% of LER costs		\$16,969
Total Non-Federal Sponsor LERRDs		\$1,045,195
Federal Cost		
**Federal Administrative Costs (01 Account)		\$10,000
Total Real Estate Costs		\$1,055,195

11.0 P.L.91-646 Relocation Assistance Benefits

The non-Federal sponsor is aware of the requirements of the Uniform Act (P.L. 91-646) and if relocations are required, the non-Federal sponsor will proceed in accordance with the Act. Currently, the TSP does not identify the displacement of any businesses or residences that are eligible for relocation assistance benefits under the Act.

12.0 Mineral/Timber Activity

There is no known mineral activity currently occurring inside the proposed project area. There is no known timber harvesting within the proposed project boundary. A check of the existing easements for the current levee shows no mineral or timber rights to any of the existing easement owners or outside interests. It is recommended that a title search be done to determine if any mineral/timber rights exist on parcels being acquired for this proposed project.

13.0 Non-Federal Sponsor's Legal and Professional Capability and Experience to Acquire and Proved LER

A thorough assessment of the non-Federal sponsor's legal and professional capability and experience to acquire, provide and perform LER has been completed through the Assessment of Non-Federal sponsor's Real Estate Acquisition Capability, which is in the format prescribed in ER 405-1-12, Appendix 12-E, and attached as Exhibit E. Based on the information provided by the non-Federal sponsor, the District's overall assessment is that the non-Federal sponsor is anticipated to be "fully capable." The non-Federal sponsor has reported that the State of Arizona does not grant "Quick Take Authority" to county governments but the sponsor can do a taking through the regular legal process. As identified in this report, the TSP would require Flood Protection Levee Easement (Standard Estate #9) over land owned by the Arizona Department of Transportation, and the Burlington Northern Santa Fe Railroad. The non-Federal sponsor does not have the ability to condemn the required interests held by these owners. In the event, it is unable to negotiate the acquisition of the required interests, the non-Federal sponsor may seek assistance from the Government to acquire those interests. At this time, the non-Federal sponsor does not have any reason to anticipate that it would not be able to acquire the required easements through negotiation.

14.0 Application or Enactment of Zoning Ordinances

At this time there are no enactments of zoning ordinances proposed in lieu of acquisition or to facilitate acquisition of real property in connection with the TSP.

15.0 Real Estate Acquisition Schedule

The TSP is anticipated to be implemented in phases over a 6 year project duration, with construction beginning in 2020 with the channelization and salt cedar removal at the upstream end of the project area, and progressing downstream. The proposed project is currently at 15% design; the anticipated phases have only been determined preliminarily, and are expected to be revised as the design progresses. The acquisition of Rights of Entry for Construction, Channel Improvement Easements, Road Easements, Temporary Work Area Easements, and Flood Protection Levee Easements needed for the TSP would be accomplished over several years, with the acquisition of all of the real estate interests required for each respective phase completed in advance of contracting for construction of that phase.

Table 3 – Real Estate Acquisition Schedule

Project Area	CONSTRUCTION YEAR	LERRDS ACQUISITION NUMBER OF MONTHS
Channelization and Saltcedar removal areas, Ruby Wash Diversion Levee	Year 1	18 MONTHS
Winslow Levee south of I- 40	Year 2	18 MONTHS
New construction Winslow Levee parallel to the north side of I-40	Year 3	18 MONTHS
Winslow Levee north from I-40 to STA 92+13.41	Year 4	18 MONTHS
Winslow Levee north from STA 92+13.41 to south end of the new construction set back area across from Homolovi I	Year 5	18 MONTHS
Winslow Levee north from south end of new construction set back area to STA 320+00 (0.08 miles north of North Road)	Year 6	18 MONTHS

16.0 Facility/Utility Relocations

A preliminary assessment of utilities and facilities within the TSP footprint has been completed in accordance with Real Estate Policy Guidance Letter (PGL) No. 31. In accordance with that guidance, the real estate assessment addresses whether the identified utility/facilities are generally of the type eligible for compensation under the substitute facilities doctrine and consults data or evidence that demonstrates that it has identified an owner with a compensable interest in the affected property. The identified utilities can be seen on Exhibit B, attached herein. Based on that assessment, the following utilities and/or facilities have been preliminarily identified as requiring relocation:

Two wooden poles and an overhead line located near the southern end of the Alternative 10.1 footprint within the construction boundary of the Ruby Wash Diversion Levee would be impacted by the project construction. This utility line crosses over the levee and construction boundary and are too low to allow access for tall construction equipment into the area. This utility is of the type generally eligible for compensation. However, further research will need to be performed to determine if the owner holds a compensable interest in the property. The ownership of these poles and type of utility has not yet been identified, but in an effort to err on the side of caution, and because the estimated relocation cost is low, this report anticipates that compensable interest in the real estate will be identified prior to the final Integrated Feasibility Report. If no owner with a compensable interest is identified prior to the final Integrated Feasibility Report, this potential relocation will be identified as a removal. Consultation with the Corps Engineering Division, and the “RS Means Construction Costs Guide” were used to estimate this cost. The cost to relocate these poles is **estimated at \$30,000**.

Kinder Morgan Natural Gas Line. A 4.5” (outside diameter), underground, high pressure natural gas line would be affected at three locations in the project footprint. The gas line crosses the existing Winslow levee at two locations where rebuilding would occur, and a third location would be affected by new levee construction along the north side of I-40. The gas line is not deep enough to protect in place. These crossings are located as follows:

- Gas Line crossing No. 1: The gas line crosses the existing Winslow Levee just off the north toe of the State Route 87 embankment west of the LCR.
- Gas Line crossing No. 2: The gas line crosses the existing Winslow Levee approximately 1,600 feet north of the I-40 Frontage Road.
- Gas Line Crossing No. 3 (Future): A third gas line crossing would be created by construction of a new levee along the north side of I-40. This crossing would be located approximately 3,600 feet west northwest of the LCR.

This gas utility is owned, operated, and maintained by Kinder Morgan. Preliminarily, Kinder Morgan has been identified as having a compensable interest on the property where the gas lines are located, as the company has verbally confirmed that it holds easements over the property in question for the line’s operations. This utility is of the type generally eligible for compensation.

It provides natural gas service to City of Winslow and its surrounding areas. Asset Management spoke with a POC at Kinder Morgan and was told that an estimated 1,200 feet of the line would need to be relocated at a cost of approximately one million dollars a mile, for a total **estimated cost of \$228,000.**

City of Winslow Potable Water Line: The Homolovi State Park is served potable water from the City of Winslow's municipal system. Potable water is provided from a water main that runs to the east end of Prosperity Avenue. The water main terminates at a gate-valve box and an air release/vacuum valve box located at the landside toe of the Winslow Levee. From the gate-valve box, a 6-inch polyvinyl chloride (PVC) water line runs northeast within the levee right of way for 1,000 feet. At this point, the water line crosses under the existing levee and continues across the LCR floodplain in an east-southeasterly direction to Homolovi State Park. The water supply line is owned and maintained by the City of Winslow. The City has verbally confirmed that it holds easements over the property where the lines are located, and has been identified as having a compensable interest in that property. Because the reconstructed levee's foundation would be deeper than the line's current depth, this line and the associated water supply infrastructure would be affected by construction and operation of the project and could not be protected in place. This utility is of the type generally eligible for compensation. This estimate was determined via coordination between Navajo County and the Corps Project Delivery Team. **The estimated cost to relocate this line is \$80,000.**

City of Winslow Inverted Siphons. Two inverted siphons pass irrigation water under the Ruby Wash Diversion Levee at the upstream end of the proposed construction area. These siphons are constructed of 30" reinforced concrete pipe with concrete headwalls. One of these siphons has collapsed and is not currently in use. These siphons will need to be relocated/rebuilt to ensure the availability of irrigation water to property owners north of I-40. These facilities are of the type generally eligible for compensation. The City of Winslow owns and maintains the siphons, and has confirmed verbally that it holds easements over the property where the siphons are located. The City has therefore been identified as having a compensable interest in that property. **The estimated cost to relocate this facility will be \$270,625.**

ADOT I-4 culvert/hydraulic gate. ADOT has been identified as the owner of a four-barrel 4' X 10' concrete box culvert with lift gates located in the Winslow levee slope in an area where the levee would be rebuilt. The box culvert and lift gates would be affected by construction and cannot be protected in place. The culvert and gates would require rebuilding in place. This cost was assigned to construction costs during the cost estimating process because the reconstruction of the culvert and gates would have to occur concurrent with project construction, therefore, the cost is not included in the cost estimate above. However, preliminary analysis indicates it is a utility of the type eligible for a substitute facility, and further analysis during the feasibility phase may result in preliminary determination that is a relocation. In that case, the costs would be included in relocation costs in the final Integrated Feasibility Report.

Total Utilities Relocation costs for Alternative 10.1: \$608,265

ANY CONCLUSION OR CATEGORIZATION CONTAINED IN THIS REPORT THAT AN ITEM IS A UTILITY OR FACILITY RELOCATION TO BE PERFORMED BY THE NON-FEDERAL SPONSOR AS PART OF ITS LER RESPONSIBILITIES IS PRELIMINARY ONLY. THE GOVERNMENT WILL MAKE A FINAL A DETERMINATION OF THE RELOCATIONS NECESSARY FOR THE CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE PROJECT AFTER FURTHER ANALYSIS AND COMPLETION AND APPROVAL OF FINAL ATTORNEY'S OPINIONS OF COMPENSABILITY FOR EACH OF THE IMPACTED UTILITIES AND FACILITIES.

17.0 Impact on Real Estate Acquisition and LER Value Estimates Due to Suspected or Known Contaminants

A Phase I Environmental Site Assessment was completed. The ESA identifies one Recognized Environmental Condition (REC) that is applicable for Alternative 10.1. The REC the ESA identifies is that low-level petroleum and possible PCB contamination is possible or likely in the location of a former railroad alignment. This site will require further investigation during the design phase and may require shallow soil removal for trace contaminants.

The ESA also indicates that there are a few other releases or potential releases that have some potential to be RECs in the context of this study; but that such risk can likely be eliminated with additional regulatory files search for more site data, primarily to find known limits on groundwater contaminant plume boundaries. The ESA anticipates that the additional data will verify there is no risk to the study area from these additional areas.

There are no known “Superfund” sites or sites presently under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remediation or response orders identified in the proposed project area. The Non-Federal sponsor fully understands its responsibilities for assessing the properties for any potential presence of hazardous waste materials as defined and regulated under CERCLA. If any Hazardous, Toxic, or Radioactive Waste (HTRW) remediation is determined to be required, the sponsor will be responsible for such remediation/response at 100 percent non-project cost.

18.0 Support/Opposition for the Project

This proposed project enjoys popular broad based support by the Winslow community. The landowners who own the land that adjoins the proposed project footprint have been very cooperative and overwhelmingly support this proposed project as a benefit to their property. There is no known opposition by Local, State and Tribal stakeholders.

The local Hopi Tribe has expressed support the proposed project. However, the Tribe has also asked the Corps about potential hydraulic impacts to the Homolovi I Pueblo, and has requested the Homolovi I Pueblo be included in the Area of Potential Effect (APE) for the proposed project. The Corps has modified the APE as requested.

19.0 Non-Federal Sponsor Notification of Risks of Pre-PPA Acquisition

The non-Federal sponsor has been advised in writing of the risks associated with acquiring land prior to the execution of the Project Partnership Agreement. A copy of this letter is posted below as Exhibit F.

Project Area Maps

LCR Winslow Project

Winslow, AZ

Alternative 10.1

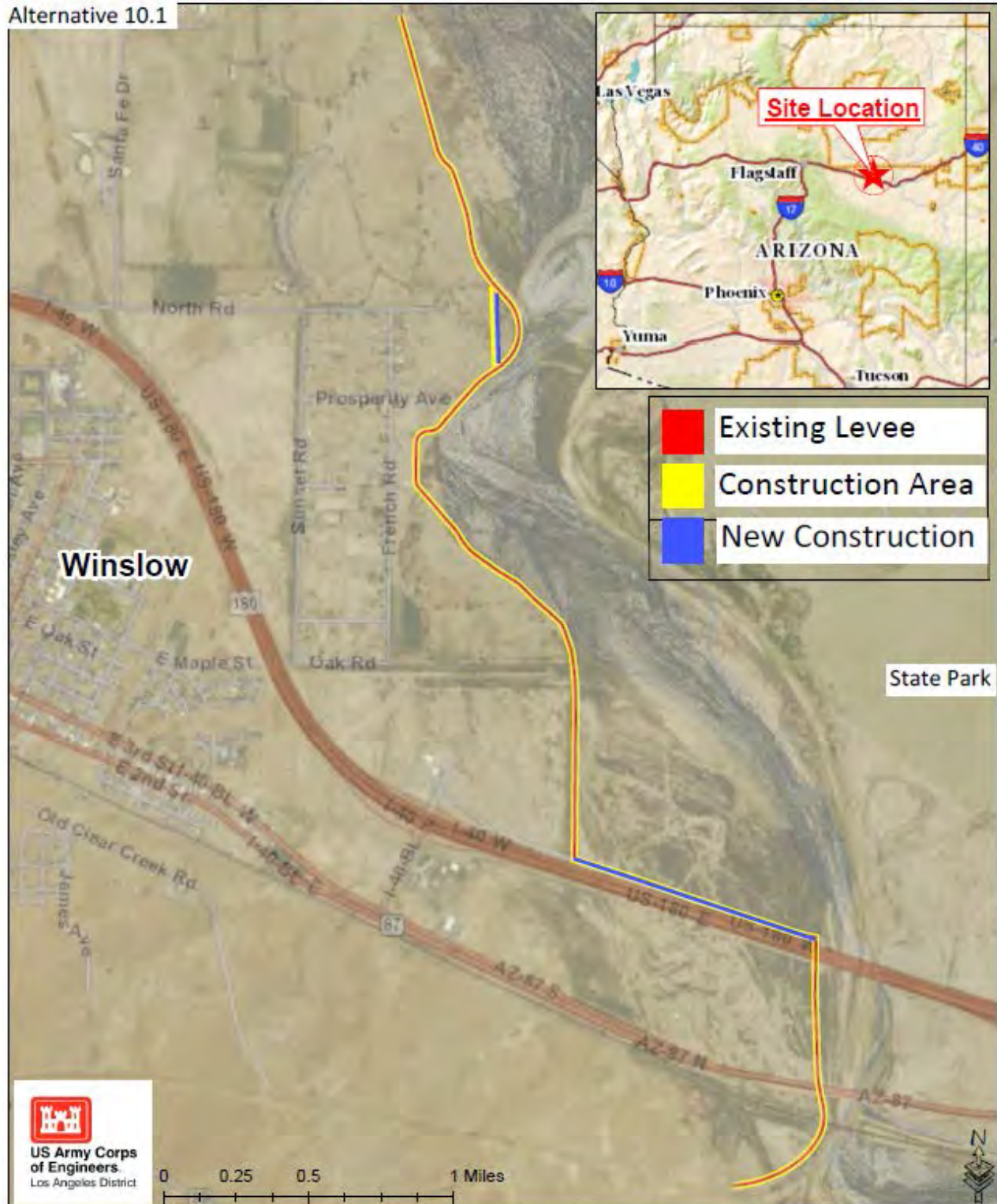


EXHIBIT A

LCR Winslow Project

Winslow, AZ

Alternative 10.1

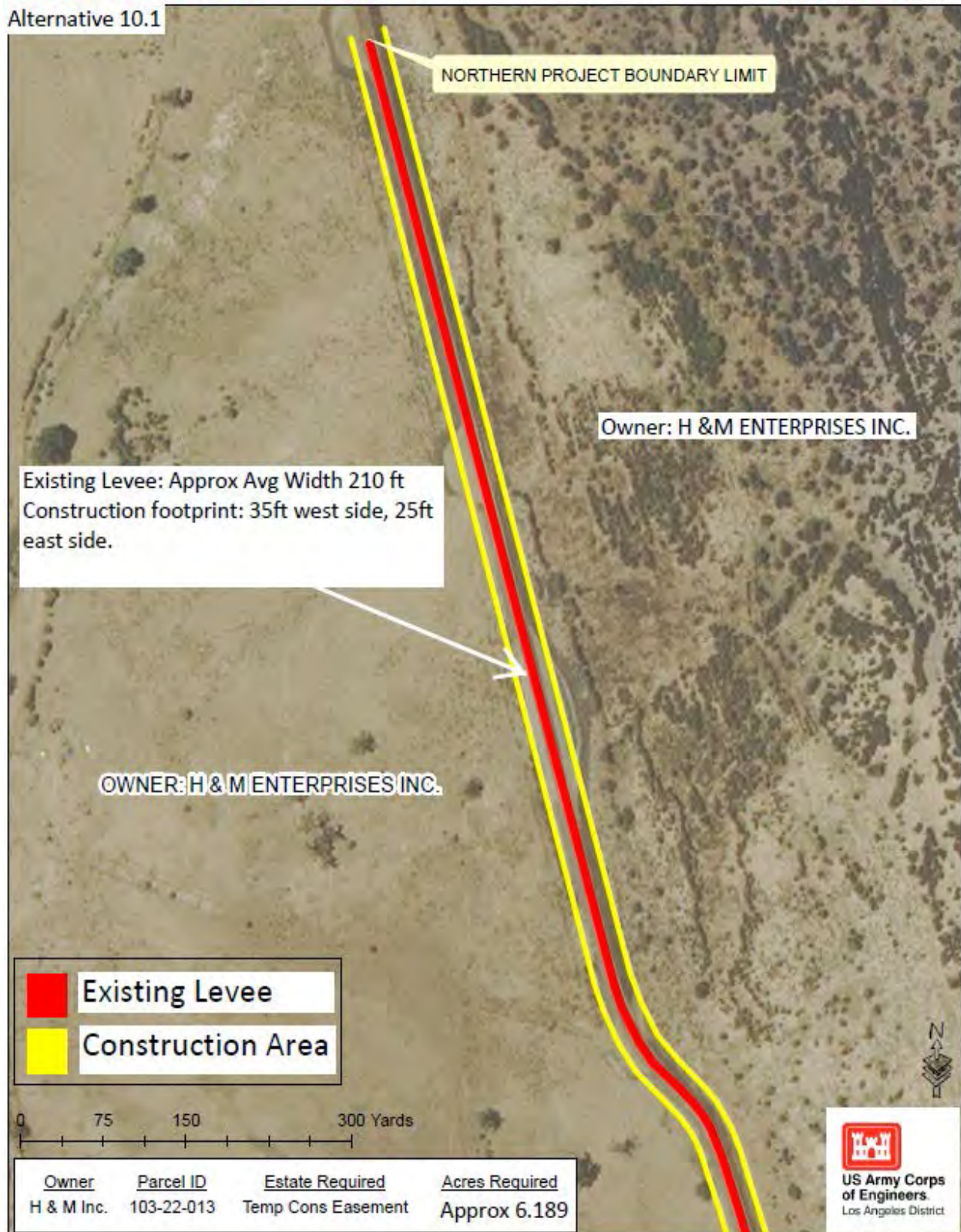


EXHIBIT A-1

LCR Winslow Project

Winslow, AZ

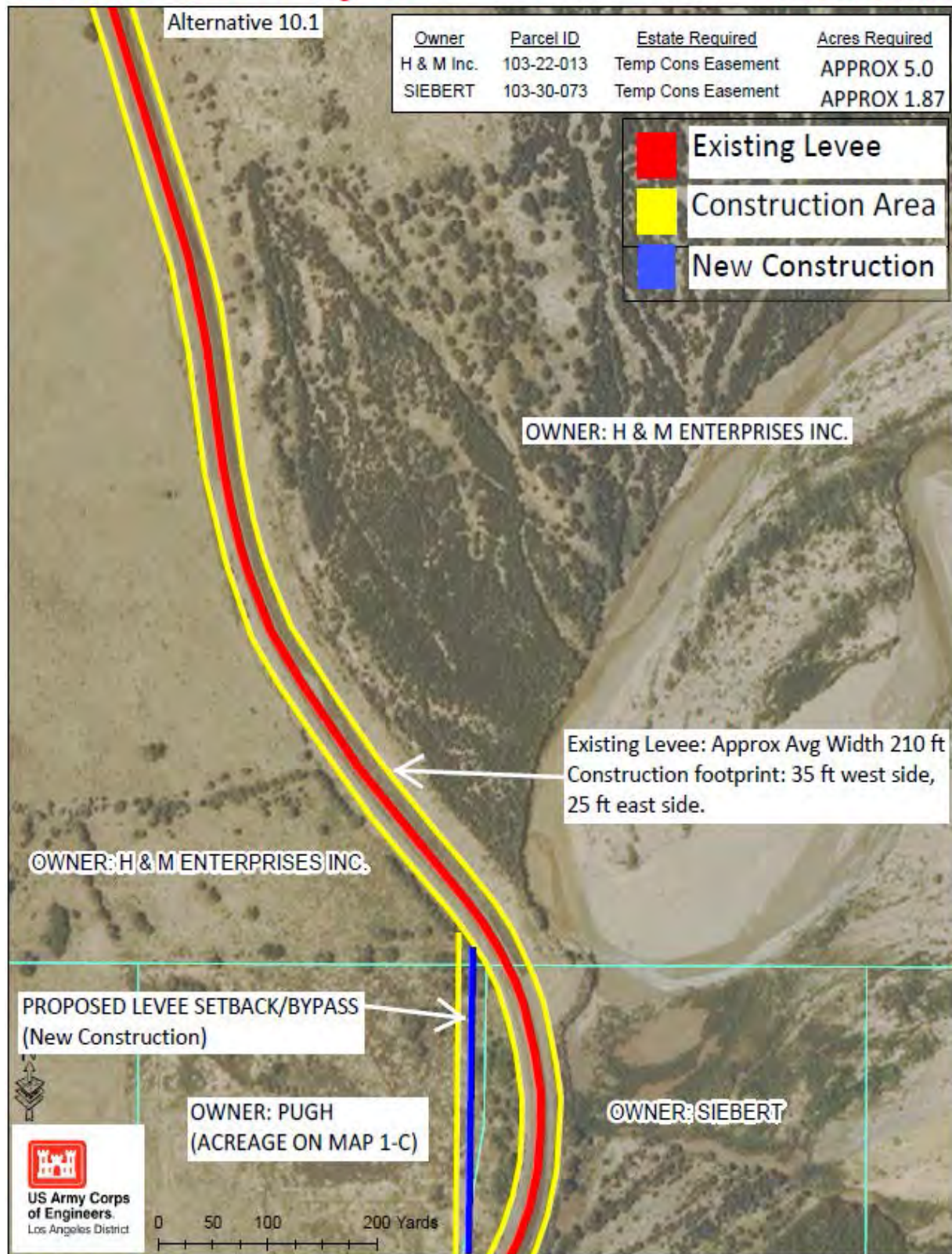


EXHIBIT A-2

LCR Winslow Project

Winslow, AZ

Alternative 10.1

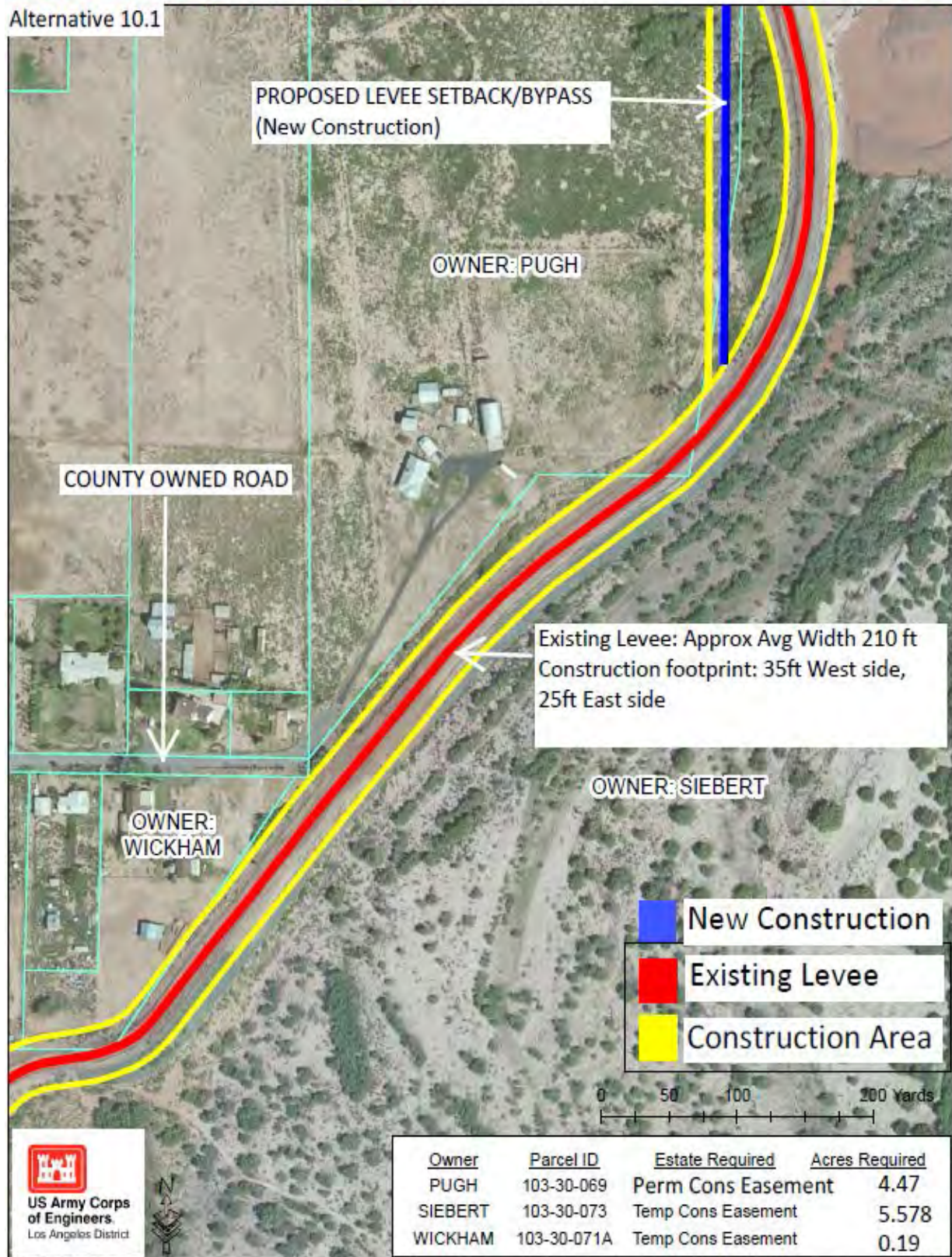


EXHIBIT A-3

LCR Winslow Project

Winslow, AZ

Alternative 10.1

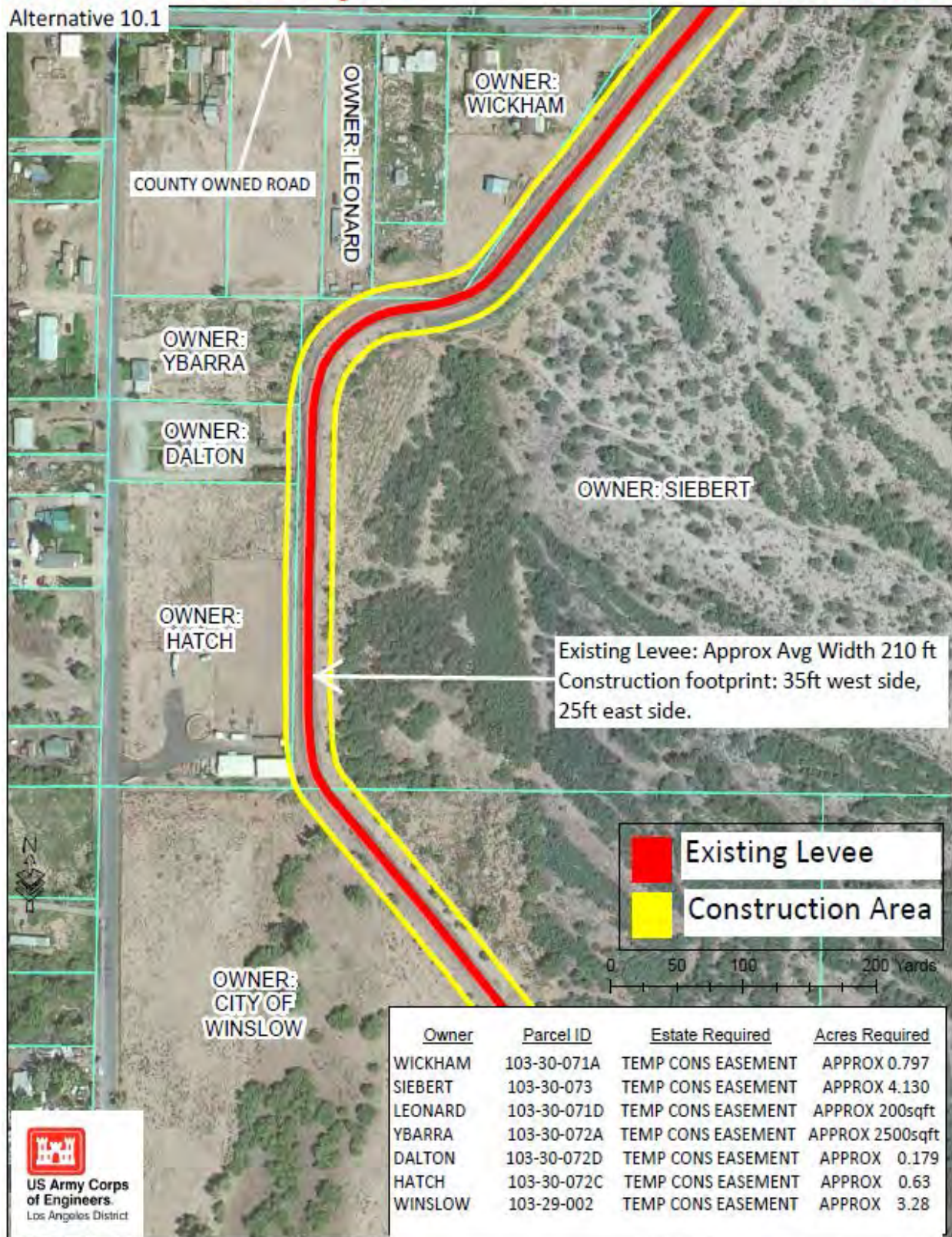


EXHIBIT A-4

LCR Winslow Project

Winslow, AZ

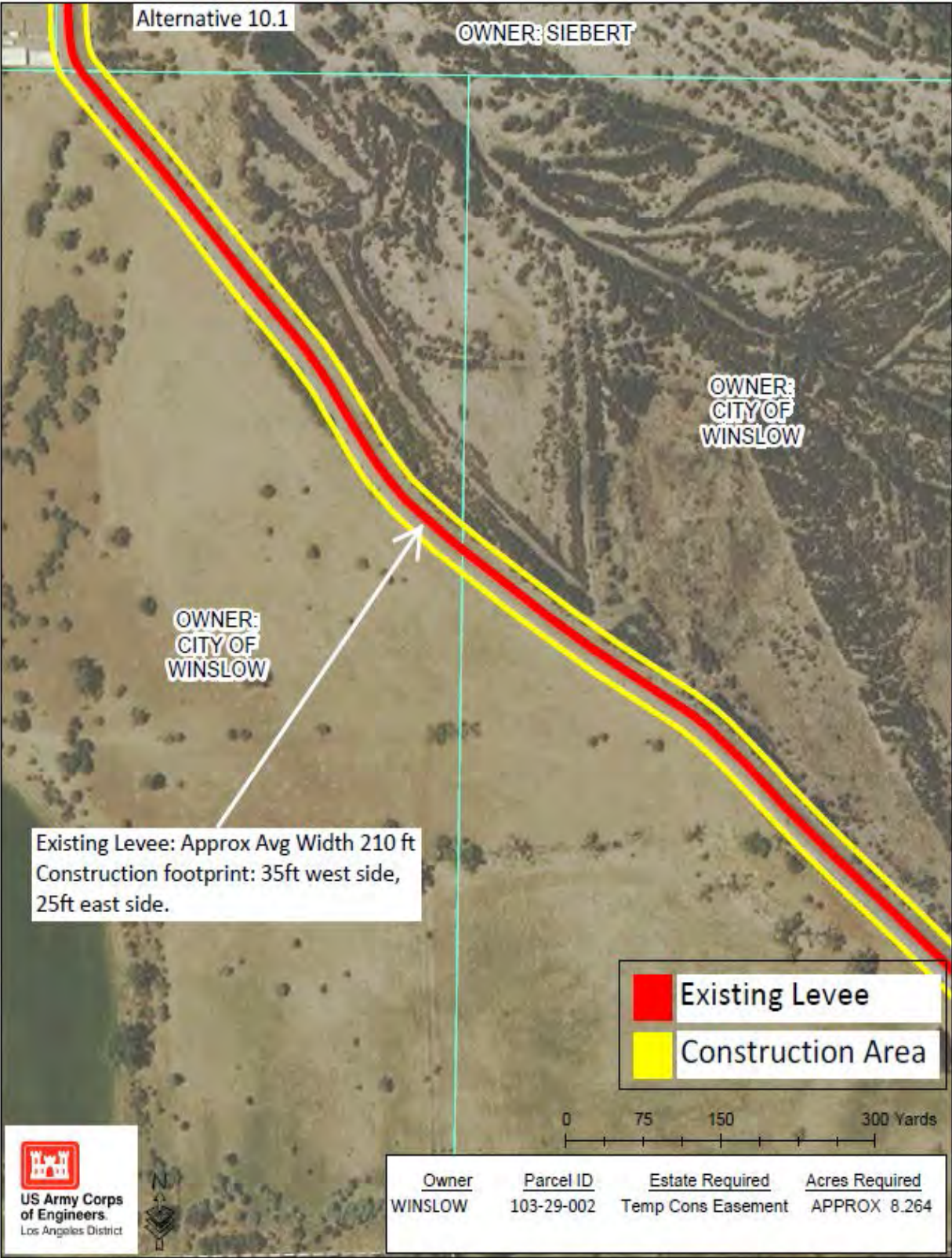


EXHIBIT A-5

LCR Winslow Project

Winslow, AZ

Alternative 10.1

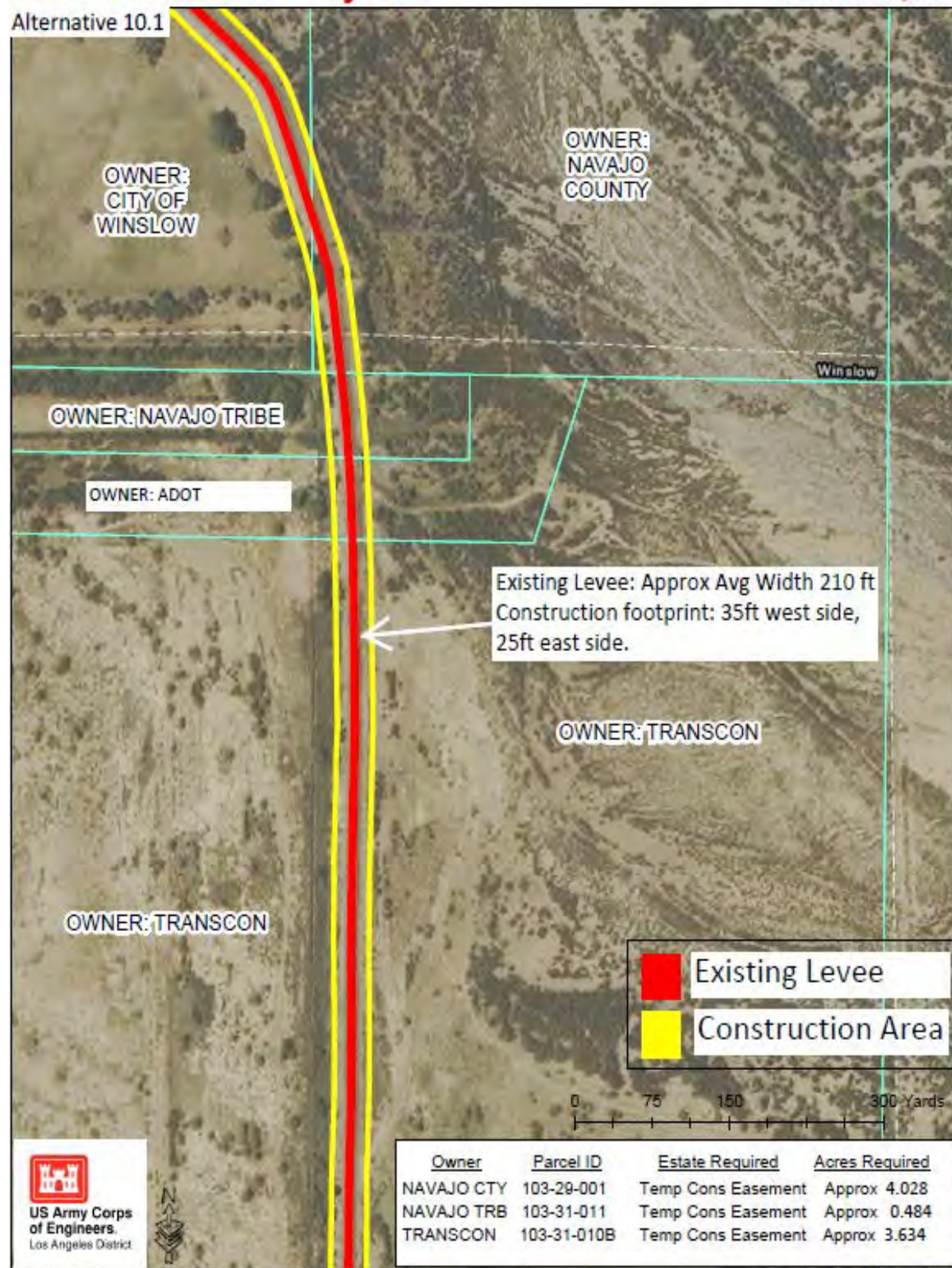


EXHIBIT A-6

LCR Winslow Project

Winslow, AZ

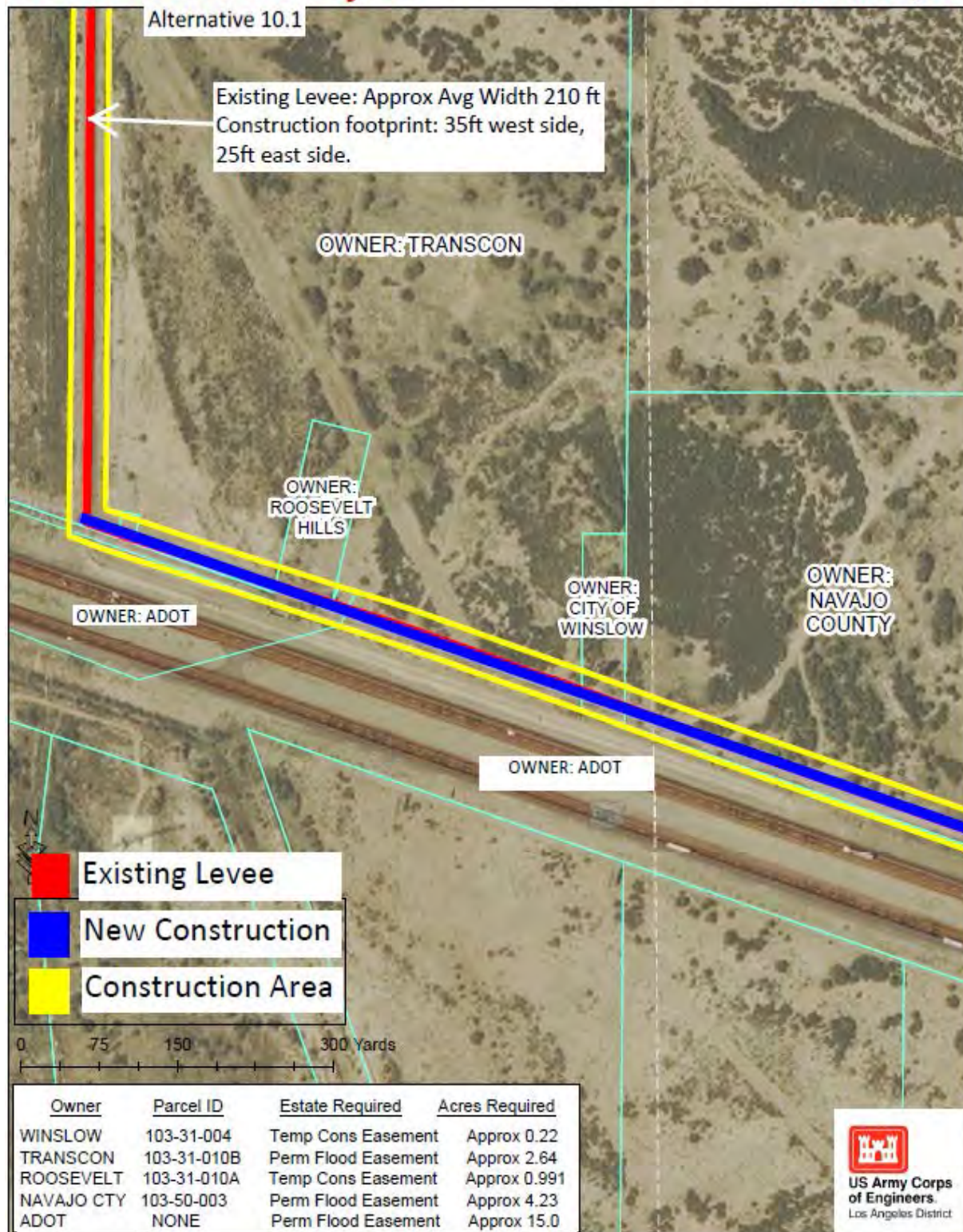


EXHIBIT A-7

LCR Winslow Project

Winslow, AZ

Alternative 10.1

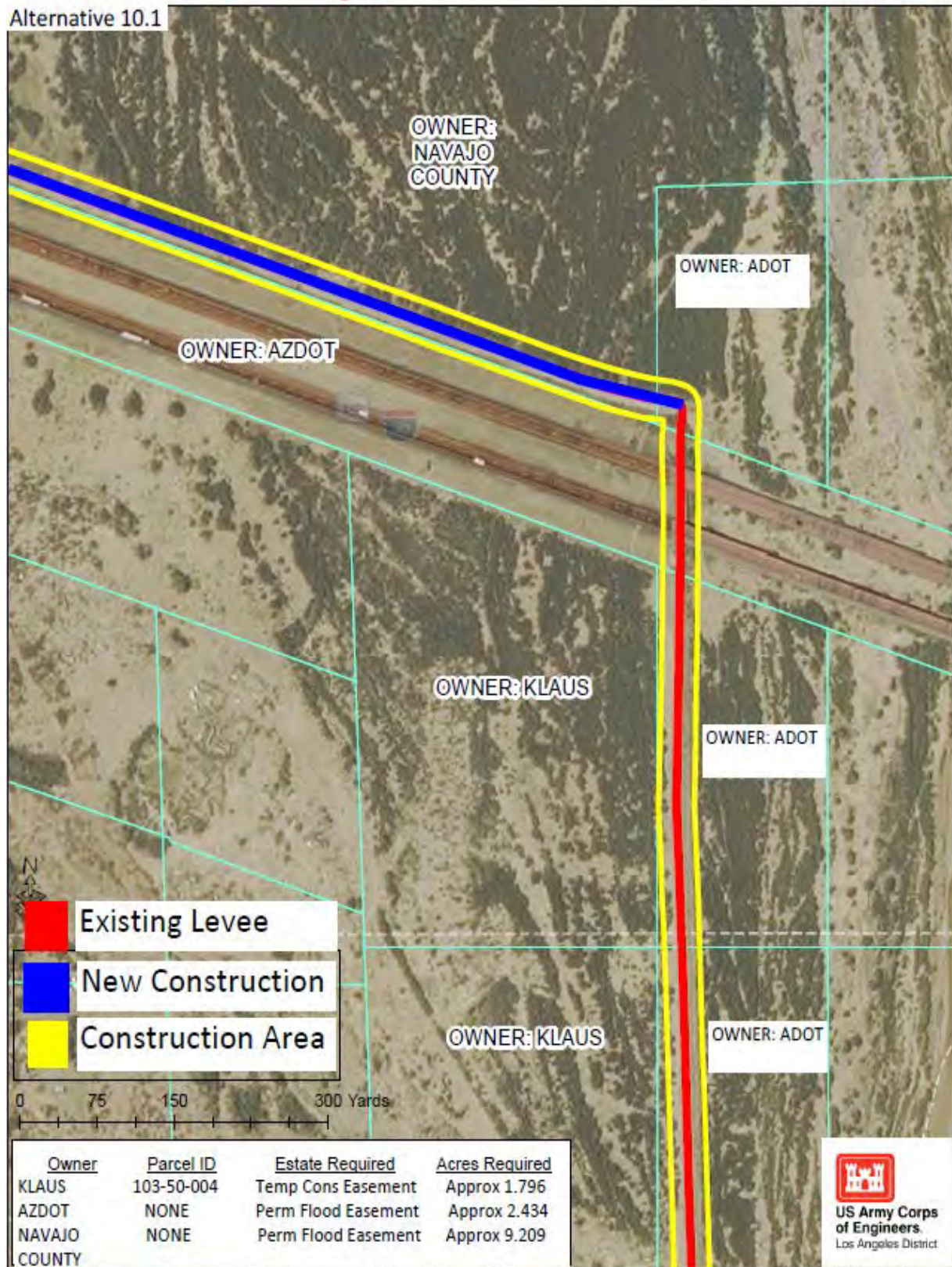


EXHIBIT A-8

LCR Winslow Project

Winslow, AZ

Alternative 10.1

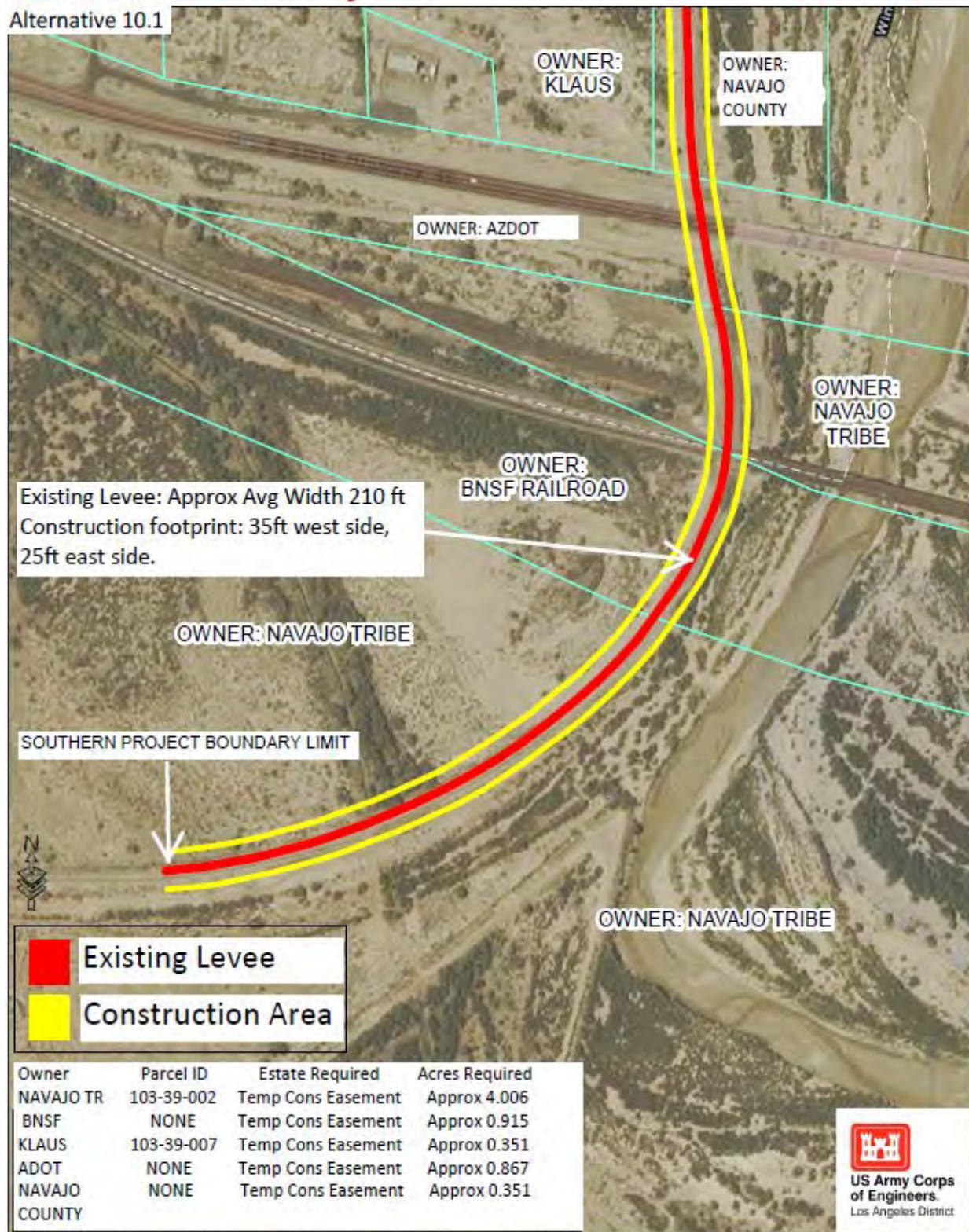


EXHIBIT A-9

LCR Winslow Project

Winslow, AZ

Alternative 10.1

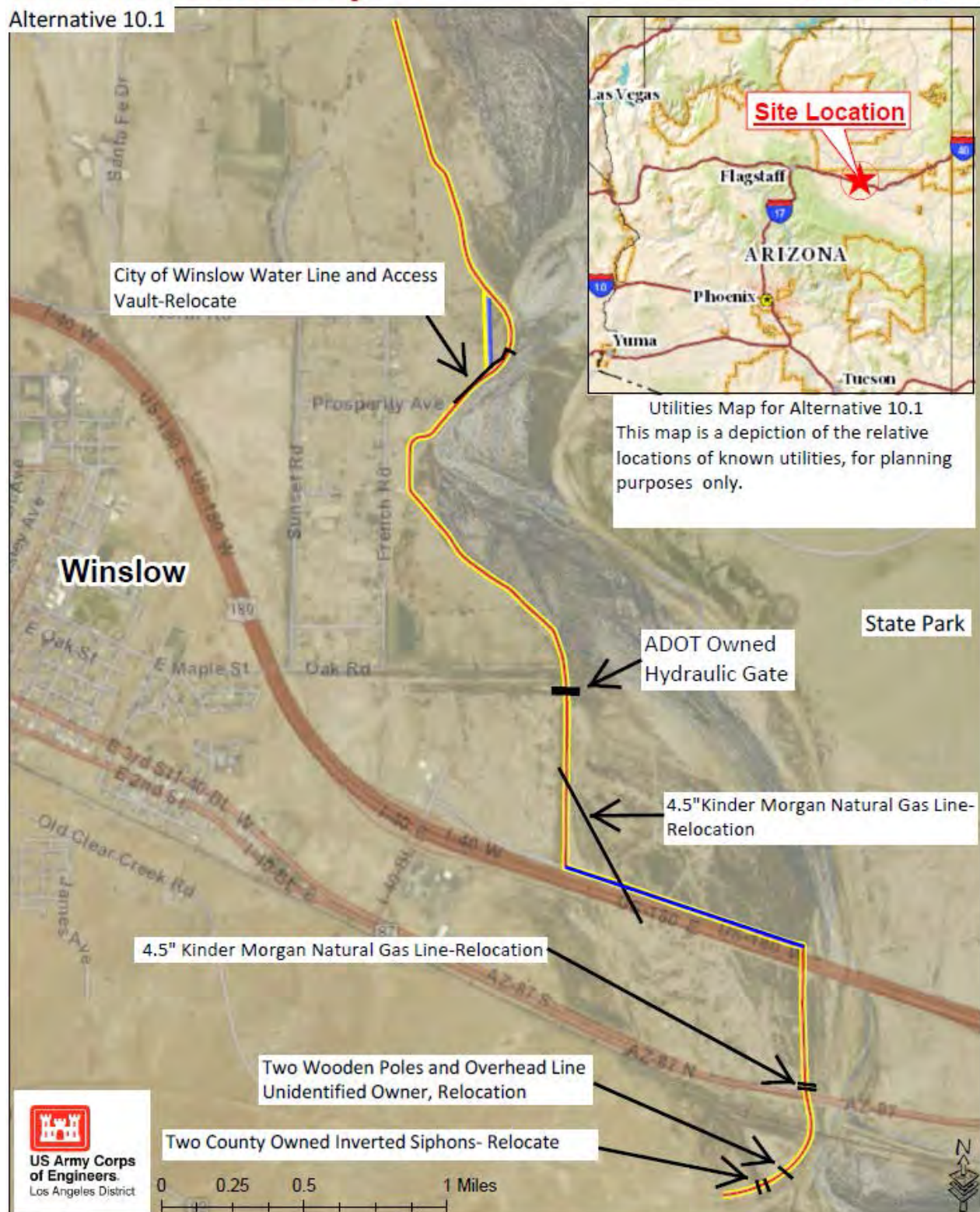


EXHIBIT B

LCR Winslow Project

Winslow, AZ

Alternative 10.1

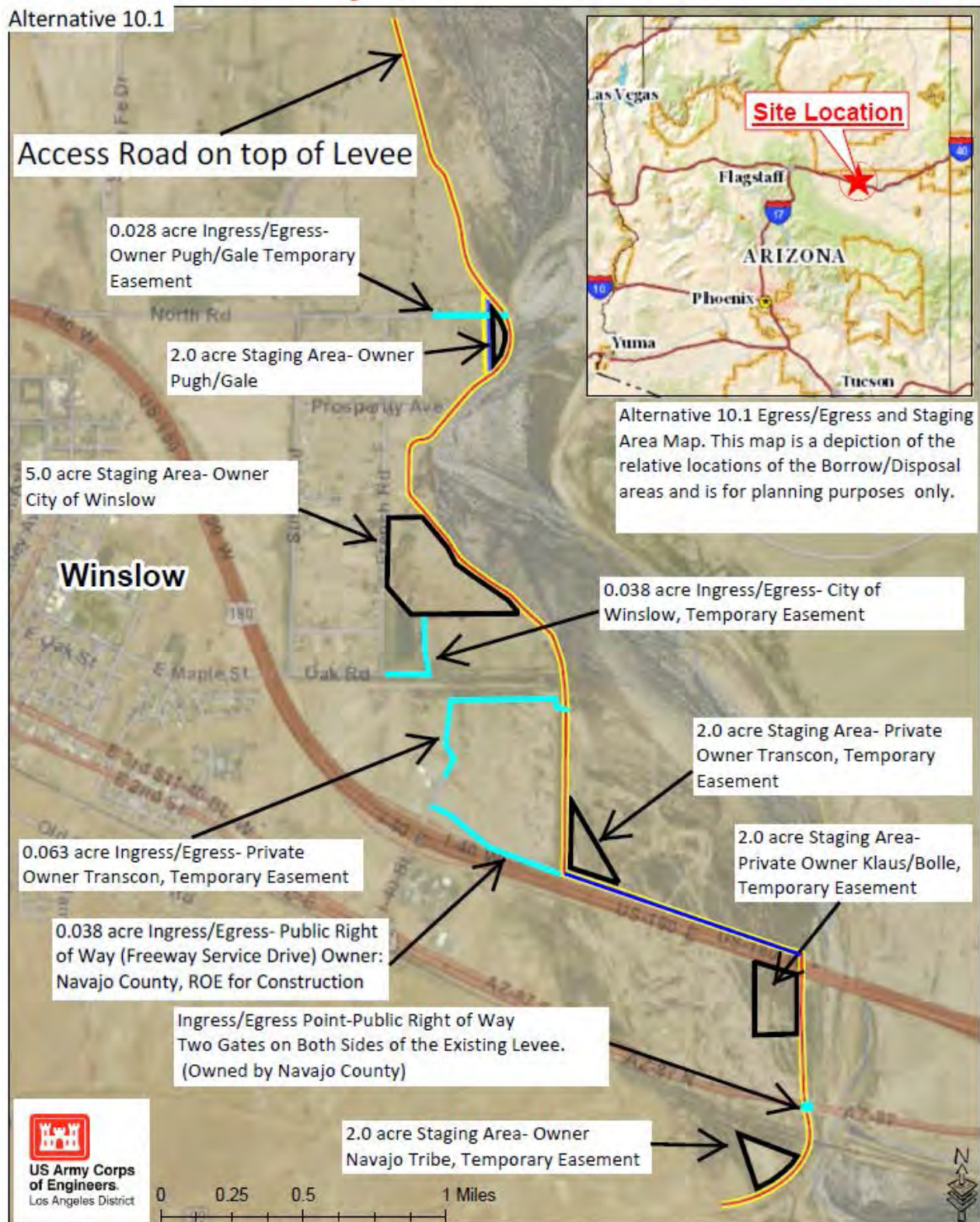


EXHIBIT C

LCR Winslow Project

Winslow, AZ

Alternative 10.1

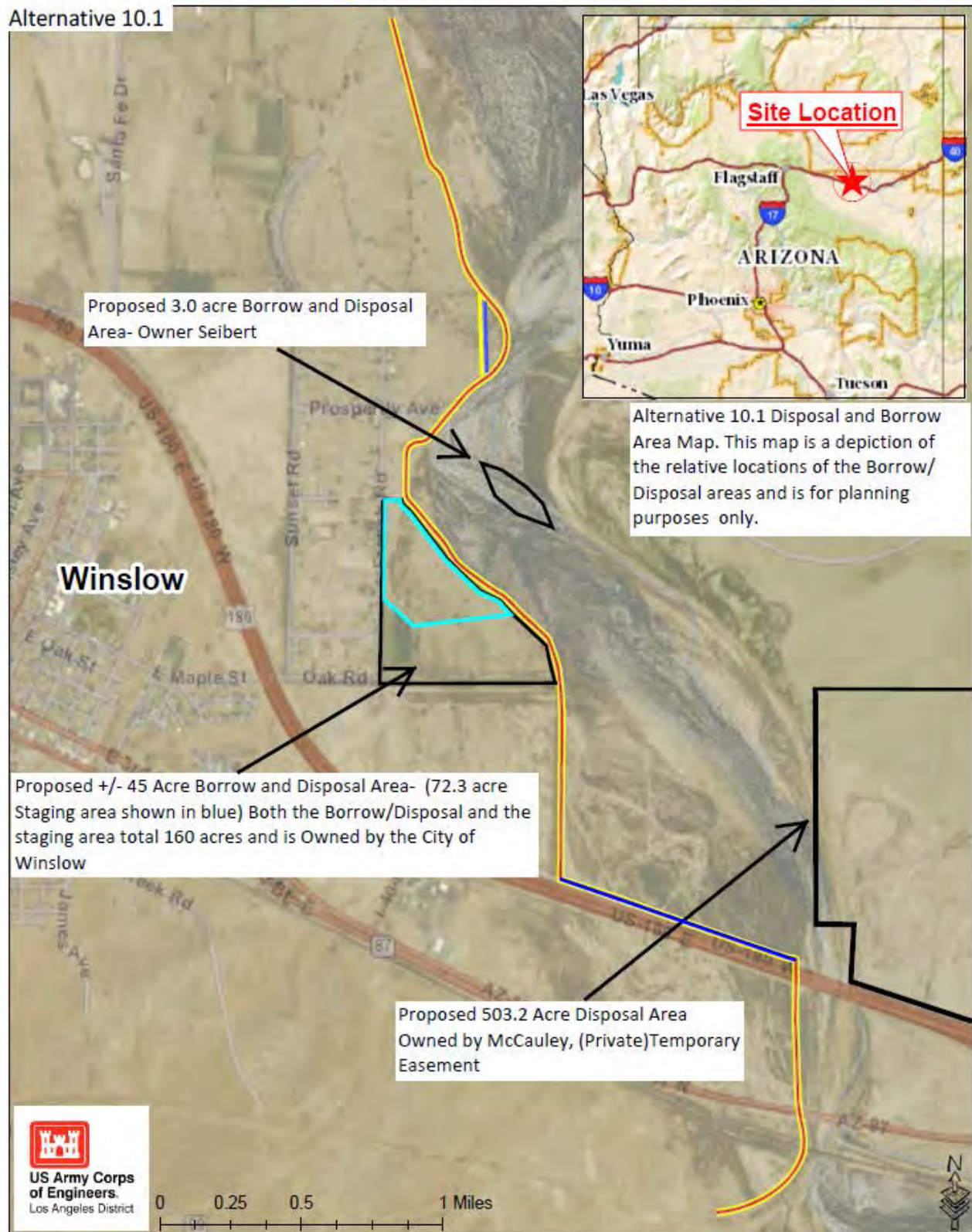


EXHIBIT D

LCR Winslow Project

Winslow, AZ

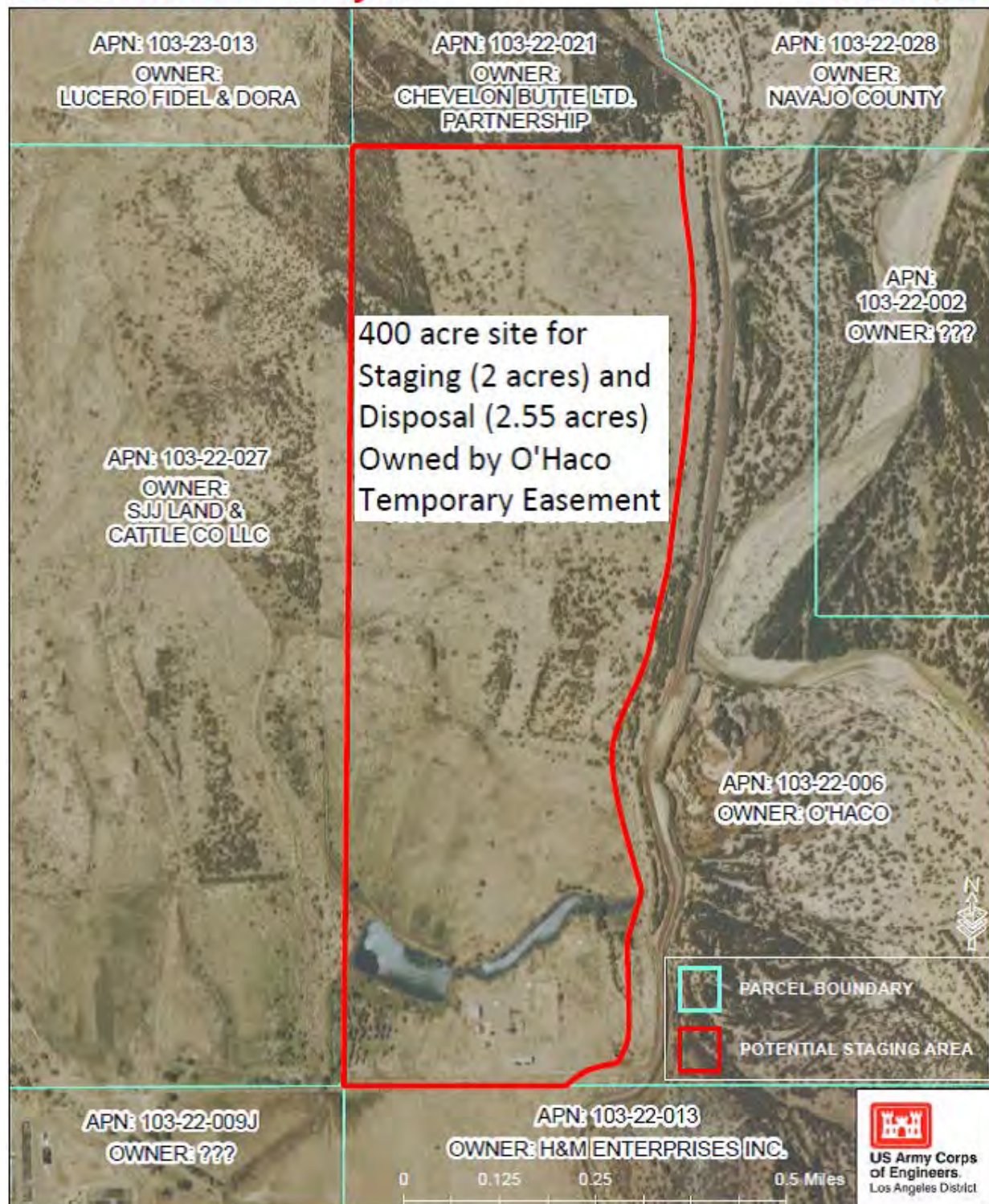
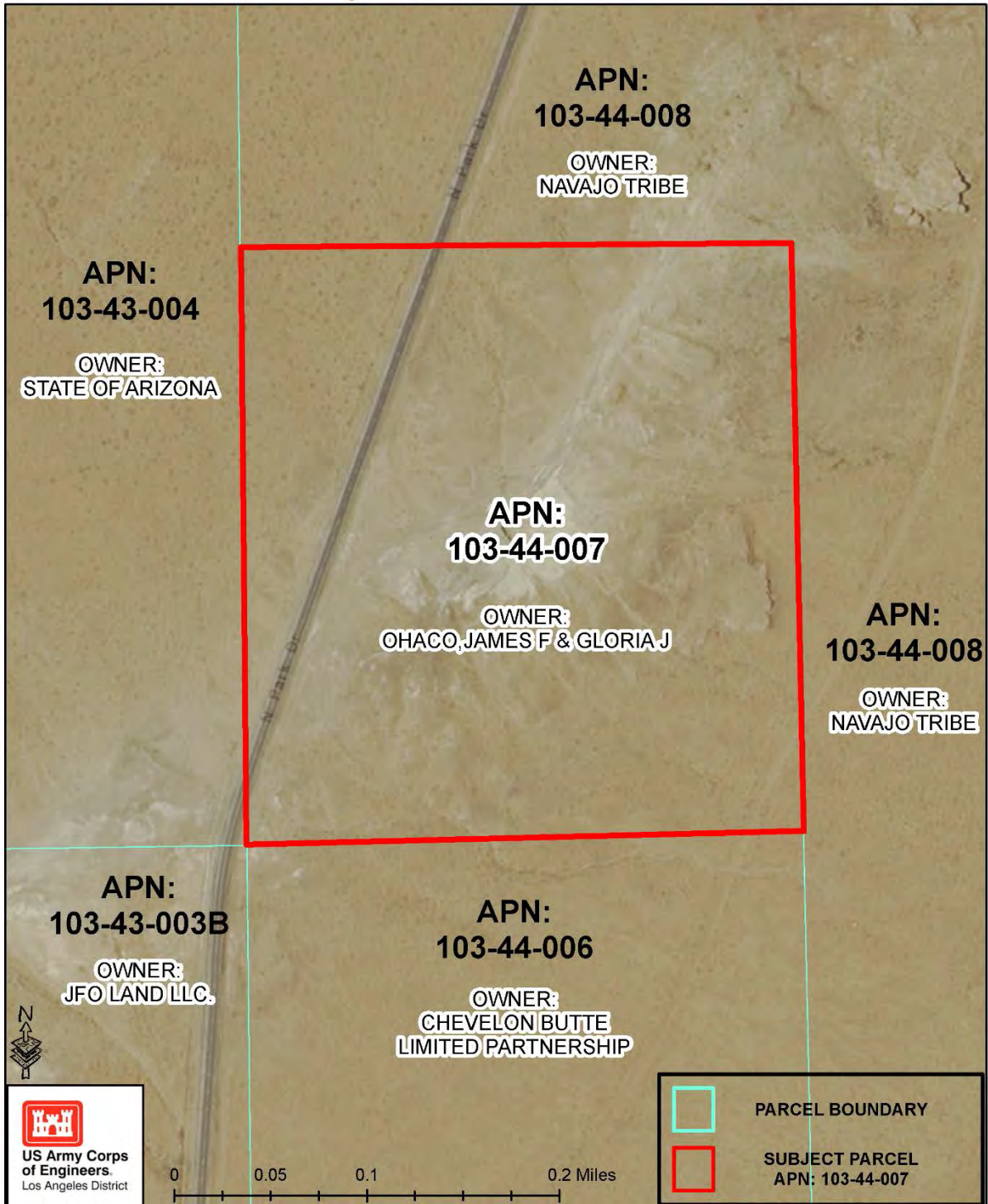


Exhibit D (cont)

LCR Winslow Project

Winslow, AZ



O'Haco Northwest

Exhibit D (cont)

LCR Winslow Project

Winslow, AZ

Alternative 10.1

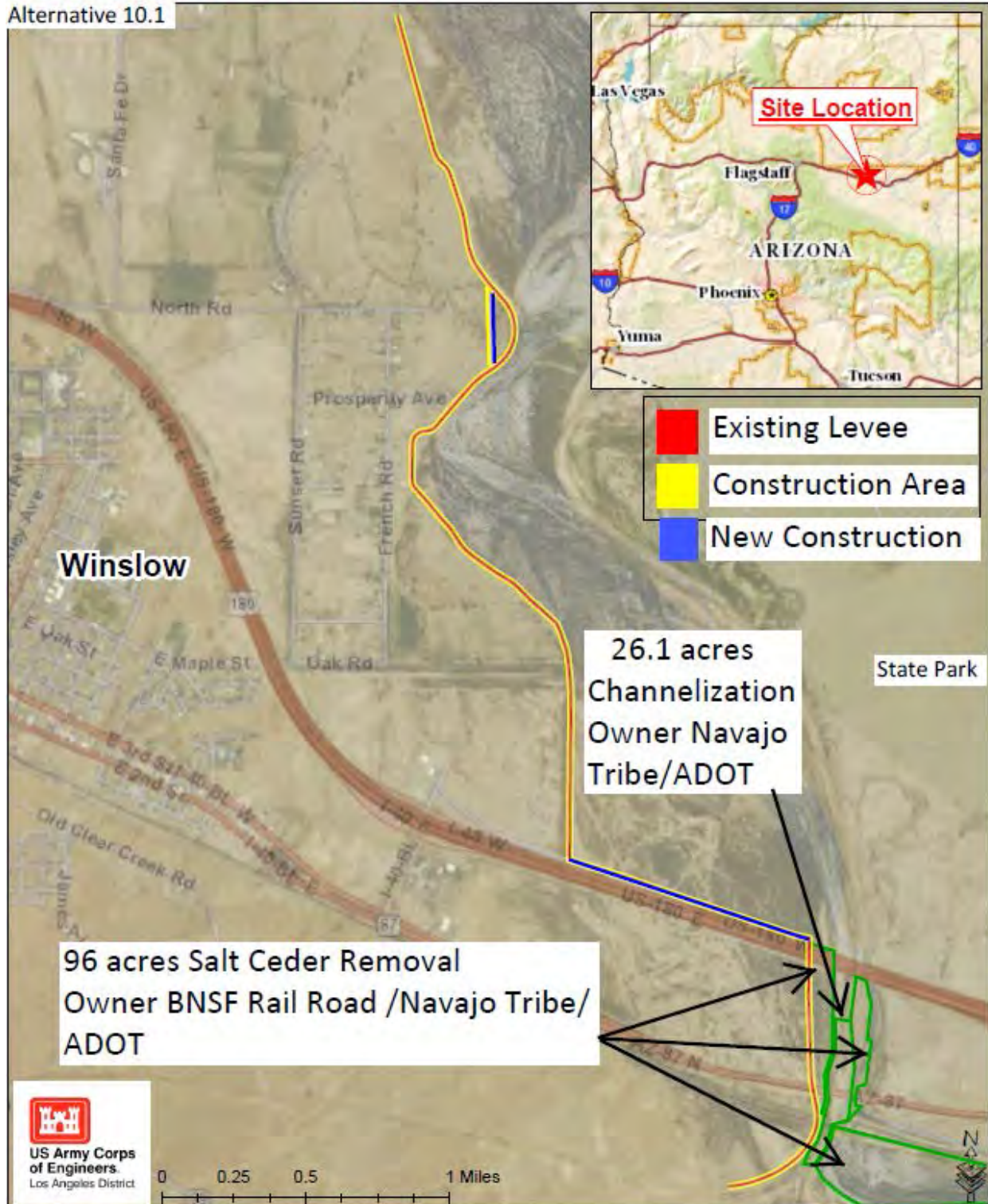


EXHIBIT E

EXHIBIT F - Assessment of Non-Federal Sponsors Acquisition Capability

ASSESSMENT OF NON-FEDERAL SPONSOR'S REAL ESTATE ACQUISITION CAPABILITY

PROJECT NAME: Little Colorado River at Winslow
NON-FEDERAL SPONSOR: Navajo County Flood Control District

I. Legal Authority:

- a. Does the sponsor have legal authority to acquire and hold title to real property for project purposes? **Yes**
- b. Does the sponsor have the power of eminent domain for this project? **Yes**
- c. Does the sponsor have a "quick-take" authority for this project? **No, Arizona state law does not grant this authority.**
- d. Are any of the lands/interests in land required for the project located outside the sponsor's Political boundary? **No**
- e. Are any of the lands/interests in land required for the project owned by an entity whose Property the sponsor cannot condemn? **Yes, state land owned by the Department of Transportation, and the BNSF Rail Road cannot not be condemned. Right of entries and easements required by the project will be acquired by the sponsor.**

II. Human Resource Requirements:

- a. Will the sponsor's in-house staff require training to become familiar with the real estate Requirements of Federal projects including P.L. 91-646, as amended? **Yes, the sponsor has never been involved with P.L. 91-646 before.**
- b. If the answer to (I a) is yes, has a reasonable plan been developed to provide such training? **If relocation is required, the Sponsor will request training from the Corps. At this time no relocations under the act will be anticipated.**
- c. Does the sponsor's in-house staff have sufficient real estate acquisition experience to meet its responsibilities for the project? **Yes, though the Sponsor might ask for expert guidance from the Corps Real Estate Section.**
- d. Is the sponsor's projected in-house staffing level sufficient considering its other work load if any, and the project schedule? **Yes**
- e. Can the sponsor obtain contractor support, if required, in a timely fashion? **Yes**

f. Will the sponsor likely request USACE assistance in acquiring real estate? **No, only advice as needed.**

III. Other Project Variables:

a. Will the sponsor's staff be located within reasonable proximity to the project site? **Yes**

b. Has the sponsor approved the project/real estate schedule/milestones? **No, no real estate milestones have been established at this time due to the preliminary nature of this study.**

IV. Overall Assessment:

a. Has the sponsor performed satisfactorily on other USACE projects? **Yes**

b. With regard to this project, the sponsor is anticipated to be: **Fully capable, but does lack "Quick Take Authority"**

V. Coordination:

a. Has this assessment been coordinated with the sponsor? **Yes**

b. Does the sponsor concur with this assessment? **Yes**

Authorized Signature for the Sponsor: Homero H. Vela

Homero H. Vela Assistant County Manager
(Print Name and Title) Navajo County

Date: Dec 2, 2015

Prepared by: William Brown, Realty Specialist

Reviewed and Approved by: [Signature]
Joe Gatti, Chief AZ/Nevada Field Office

EXHIBIT G - Non-Federal Sponsor Notifications of Risks of Pre-PPA Acquisition



DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
PHOENIX/NEVADA FIELD OFFICE
3636 NORTH CENTRAL SUITE 900, PHOENIX AZ 85012

June 10, 2015

Subject: Little Colorado River at Winslow Flood Risk Management Project

Mr. James G. Jayne
Navajo County Manager
P.O. Box 668
100 East Carter Drive
Holbrook, Arizona 86025

Dear Mr. Jayne,

During the planning and feasibility portion of civil works projects, the U.S. Army Corps of Engineers (Corps) identifies the estimated need and extent of real estate interests required for the proposed project. My staff and I have been working on the Little Colorado River (LCR) at Winslow real estate requirements and have developed some initial estimates.

When real estate requirements are determined, Government regulations require the Corps to send a letter advising the non-Federal sponsor of the risks involved in acquiring necessary real estate interests prior to execution of the Project Partnership Agreement ("PPA").

This letter constitutes official notice of the risks involved with acquiring property rights for the proposed LCR at Winslow Flood Risk Management Project prior to the signing of the PPA. As the non-Federal sponsor, the Navajo County Flood Control District assumes full and sole responsibility for any and all costs, responsibility, or liability arising out of the acquisition effort. Generally, these risks include, but are not limited to, the following:

1. Congress may not authorize the project for construction;
2. Congress may not appropriate funds to construct the proposed project, even if it is authorized;
3. A PPA mutually agreeable to the non-Federal sponsor and the Government may not be executed and implemented;
4. The non-Federal sponsor may incur liability and expense by virtue of its ownership of contaminated lands, or interests therein, whether such liability should arise out of local, state, or Federal laws or regulations including liability